

✓

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/643,136	KLESHOCK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Rakesh K. Dhingra	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--  
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE dt. 9/21/06.
2. ☒ The allowed claim(s) is/are 1-13, 37-39, 42-51 and 64.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

  
Rakesh K. Dhingra

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/21/06 has been entered.

**EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph R. Jordan on 12/5/06.

The application has been amended as follows:

In the Claims

Claims have been amended as follows:

Claims 40, 41 & 63: (Cancelled)

64. (Presently Amended) An upper source shield configured to surround a material source and energy source in a removable top portion of a cooled and grounded chamber wall of a semiconductor processing apparatus for protecting said top portion from deposition, comprising:

an integral, annular metal element having at least four annular portions including a cylindrical top ring, a frusto-conical sloped ring, a cylindrical bottom ring, and a generally planar mounting element;

Art Unit: 1763

the frusto-conical sloped ring having an upper smaller end contiguous with the top ring and a larger lower larger end contiguous with the bottom ring;

each of the rings having an inner surface and an outer surface;

~~the metal element having~~ a continuous inner surface formed of the inner surfaces of said top, sloped and bottom rings, and an outer surface formed of the outer surfaces of said top, sloped and bottom rings;

~~the frusto-conical sloped ring having an upper smaller end contiguous with the top ring and a larger lower larger end contiguous with the bottom ring; and~~

the mounting element is disposed on the outer surface of the sloped ring and having an inner edge a bottom surface contiguous with a lower portion of the outer surface of the sloped ring ~~at the back surface thereof~~ and a mating surface contiguous with an upper portion of the outer surface of the sloped ring and configured to form intimate thermal contact and electrical contact with the removable top portion of the cooled and grounded chamber wall and to support the annular element ~~thereon~~ on the chamber wall.

1. (Presently Amended) A chamber shield assembly for a semiconductor-wafer vacuum processing apparatus comprising a plurality of shields including the upper source shield ~~as claimed in~~ of claim 64, wherein:

each of the plurality of shields is made of high thermal conductivity material to provide high thermal conductivity throughout each shield;

each shield has a mounting surface configured to provide intimate thermal contact with the wall of a chamber of the apparatus when secured thereto, the mounting surface having sufficient area to provide high thermal conductivity between the shield and the wall of the chamber.

42. (Presently Amended) The upper source shield as claimed in claim ~~63~~ 64, wherein the mounting element comprises at least one slot extending from the mating surface to the bottom surface, wherein the slot is located on a circle having a diameter of approximately 584.7 mm and has an angular displacement of approximately 37.5 degrees.

44. (Presently Amended) The upper source shield as claimed in claim ~~63~~ 64, wherein the mounting element comprises at least one hole extending from the mating surface to the bottom surface, wherein the hole is located on a circle having a diameter of at least approximately 586.7 mm and has a diameter of approximately 5 mm.

***Allowable Subject Matter***

Claim 1-13, 37-39, 42-51 and 64 allowed.

**Reasons for allowance**

The following is an examiner's statement of reasons for allowance:

Claim 64 – Prior art (US PG PUB 2004/0094402 – Gopajlraja et al) do not teach claim limitation “the mounting element is disposed on the outer surface of the sloped ring and having an inner edge a bottom surface contiguous with the a lower portion of the outer surface of the sloped ring at the back surface thereof and a mating surface contiguous with an upper portion of the outer surface of the sloped ring and configured to form intimate thermal contact and electrical contact with the removable top portion of the cooled and grounded chamber wall and to support the annular element ~~thereon~~ on the chamber wall.” in the context of remaining limitations of the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Art Unit: 1763

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh K. Dhingra whose telephone number is (571)-272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rakesh Dhingra

  
RAM N. KACKAR, P.E.  
PRIMARY EXAMINER